

Amendment to the Claims:

This listing of claims will replace all versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-22 (Cancelled)

23. (New) A method comprising the steps of:
- receiving configuration data representative of a current configuration of an associated wireless local area network;
 - receiving characteristic data representative of at least one characteristic associated with the wireless local area network;
 - receiving optimization data representative of at least one optimization parameter;
 - generating an optimal configuration data representative of an optimal configuration of the wireless local area network in accordance with the received configuration data, the characteristic data, and the optimization data; and
 - dynamically modifying the current configuration of the associated wireless local area network in accordance with the generated optimal configuration data.
24. (New) The method of claim 23, wherein the step of generating optimal configuration data further comprises the step of applying an optimization algorithm to the optimization data.
25. (New) The method of claim 24, wherein the optimization algorithm is at least one of the group consisting of Newton's method and gradient search.
26. (New) The method of claim 23, the generating step further comprising performing at least one discrete event simulation in accordance with the received configuration data, the characteristic data, and the optimization data.

27. (New) The method of claim 23, wherein the generating step further comprises simulating a network configuration with a discrete event driven medium access control protocol simulator.

28. (New) The method of claim 23, further comprising the step of displaying, via an associated display, graphical data representative of the generated optimal configuration data.

29. (New) The method of claim 23, further comprising simulating one of a group consisting of throughput, noise mitigation, access point loading, voice distribution, data distribution propagation effects, transmit power, receiver sensitivity and adjacent channel interference.

30. (New) The method of claim 23, further comprising simulating a plurality of a group consisting of throughput, noise mitigation, access point loading, voice distribution, data distribution propagation effects, transmit power, receiver sensitivity and adjacent channel interference.

31. (New) The method of claim 23, wherein the at least one optimization parameter is based on historical usage data associated with the wireless local area network.

32. (New) A system comprising:
means adapted for receiving configuration data representative of a current configuration of an associated wireless local area network;
means adapted for receiving characteristic data representative of at least one characteristic associated with the wireless local area network;
means adapted for receiving optimization data representative of at least one optimization parameter;
simulating means adapted for generating optimal configuration data representative of an optimal configuration of the wireless local area network in accordance with the received configuration data, the characteristic data, and the optimization data coupled to the means

adapted for receiving configuration data, the means adapted for receiving characteristic data and the means adapted for receiving optimization data; and

means adapted for dynamically modifying the current configuration of the associated wireless local area network responsive to the simulating means in accordance with the generated optimal configuration data .

33. (New) The system of claim 32, wherein the simulating means further comprises application means adapted for applying an optimization algorithm to the optimization data.

34. (New) The system of claim 33, wherein the optimization algorithm is at least one of the group consisting of Newton's method and gradient search.

35. (New) The system of claim 32, further comprising communication means adapted for communicating the optimal configuration data to a management tool.

36. (New) The system of claim 32, wherein the simulation means comprises means adapted for performing a discrete event driven medium access control protocol simulation in accordance with the received configuration data, the characteristic data, and the optimization data.

37. (New) The system of claim 32, further comprising display means adapted for displaying graphical data representative of the generated optimal configuration data.

38. (New) The system of claim 32, further comprising means for receiving the at least one optimization parameter from an associated user.

39. (New) The system of claim 32, wherein the at least one optimization parameter is historical usage data associated with the wireless local area network.

40. (New) An apparatus comprising:

a management tool communicatively coupled to an associated wireless local area network for managing and modifying the associated wireless local area network, the management tools is configured to receive configuration data representative of a current configuration of the associated wireless local area network and to receive characteristic data representative of at least one characteristic of the associated wireless local area network;

a simulator for simulating at least one configuration of the associated wireless local area network;

an interface device configured to facilitate data communication between the management tool and the simulator;

a receiving device for receiving optimization data representative of at least one optimization parameter,

wherein the configuration data, the characteristic data, and the optimization data are sent to the simulator from the management tool via the interface device, and the simulator is responsive to generate optimal configuration data representative of an optimal configuration of the associated wireless local area network in accordance with the received configuration data, the characteristic data, and the optimization data; and

wherein the simulator is configured to continually receive the characteristic data and continually updates and dynamically modifies the optimal configuration of the associated wireless local area network.

41. (New) The apparatus of claim 40, wherein the simulator applies an optimization algorithm to the optimization data.

42. (New) The apparatus of claim 41, wherein the optimization algorithm is at least one of the group consisting of Newton's method and gradient search.

43. (New) The apparatus of claim 40, wherein the simulator is a discrete event driven medium access control protocol simulator.

44. (New) The apparatus of claim 40, further comprising a transmission device for transmitting the optimal configuration data to the management tool, wherein the management tool dynamically modifies the current configuration of the associated wireless local area network in accordance with the generated optimal configuration data.

45. (New) The apparatus of claim 40, wherein the simulator is configured to simulate one of the group consisting of throughput, noise mitigation, access point loading, voice distribution, data distribution propagation effects, transmit power, receiver sensitivity and adjacent channel interference.